ABSTRACT

Comparison of Reduce Dose and Iterative Reconstruction (IR) Variations In Determining Minimization of Dose Length Product (DLP) and Image Noise Head CT

Ulil Aliifah Putri[1]; Anggraini Dwi S[2]; Budi Prijo W[3]

Background*: Minimalization of Dose Length Product (DLP) and image noise can be obtained from the use of appropriate methods with the examination done. One method to minimize the radiation dose is Reduce Dose. Then there are several methods to reduce image noise and Iterative Reconstruction (IR) method is used. One of the Iterative Reconstruction methods found in the Philips 128 Slices MSCT tool is iDose. This study intends to obtain an optimal Reduce Dose level in reducing dosage and iDose levels capable of minimizing image noise.*
Purpose*: To know the differences of Dose Length Product (DLP) and Image Noise by using variation method of Reduce Dose and Iterative Reconstruction (IR).*
Result: *In the increasing variation of Reduce Dose, there is a difference of Dose Length Product (DLP) which is also increasing. Increasing DLP value is in line with the decreased image noise value. The most minimal increase in the dose of radiation is found in the variation of Reduce Dose 34 with a 2.2% increase. The most minimal image noise value is at iDose level 5. Among the three variations of Reduce Dose, the level that reduces image noise most is Reduce Dose 34.*
Conclusion*:There are several differences of Dose Length Product (DLP) and Image noise values with variation of Reduce Dose and Iterative Reconstruction methods. Based on experiment, Reduce Dose 34 and iDose 5 has chosen as the optimal level in radiation dose and image noise. This levels gives optimal dose with minimal image noise values.*

Keywords: *Reduce Dose, Iterative Reconstruction, Dose Length Product, Image Noise*

[1] *Student of Radiology Imaging Technology Diploma 4 Vocational Faculty of Airlangga University, Surabaya*
[2] *Radiologist of Radiology Department of Airlangga University Hospital, Surabaya*
[3] *Radiographer of Radiology Department of RSUD Dr. Soetomo, Surabaya*